PROGRESS REPORT

GRANT NUMBER: 7310035

High Capacity Airborne Wind Turbine

Altaeros Energies

05/01/2014 – 07/31/2014

Deliverables Submitted

No official deliverables were scheduled to be submitted this period.

Budget

No costs were submitted for this period.

Schedule Status

Our February update indicated that an FAA permitting delay was resulting in a delay of the overall project. We are proposed to put the project on hold for six to twelve months until we had better insight in regards to our FAA permitting status, and to push back the planned installation of our turbine to mid-late 2015. AEA project coordinator approved a plan of action to delay the project.

Percent Complete

Tasks/Milestones	Start Date	End Date	Percent Complete
Task 1: Final site selection, permitting, and community forum	Mar-13	Mar-15	70%
Task 2: 30 kw turbine assembly and testing in Maine	Jul-13	Jul-15	35%
Task 3: Complete instrumentation plan and shakedown test plan	Jul-13	Mar-15	30%

Work Progress

Task 1:

- Site Selection
  - We are working with Golden Valley Electric Authority site data to select the exact latitude and longitude coordinates for the project.

- Permitting
  - Altaeros has had multiple phone conversations with the FAA to help clarify the details of how they want to receive the project data (coordinates and elevation) for the unique nature of our high altitude wind turbine project. This has required Altaeros to collect additional data and conduct additional modeling on the blowdown of the turbine (the maximum distance it can be blown in any direction). Altaeros is in the process of resubmitting its application.

- Community Assessment
  - Altaeros has continued to receive significant additional positive press in regards to the wind energy technology and the Alaska commercial demonstration project.
    - The BAT was selected as a top 10 innovation by CNN – http://www.cnn.com/2014/05/12/tech/innovation/big-idea-airborne-wind-turbines/ http://www.cnn.com/interactive/2014/06/tech/cnn10-inventions/

Task 2:

- 30 kw turbine assembly and testing in Maine

- Team continued 30kW system design work for the Alaska prototype
- Team continued speaking with vendors to identify and secure the key components of the prototype.
- Team is currently in the middle of completing a financing round to gain additional cost sharing funds to fully execute on the project.

Task 3:

- Test experience and data from the previous prototype continues to inform the development of the instrumentation plan

Future Work

Task 1:

- Site Selection
  - Preliminarily completed (Eva Creek), unless future permitting problem arises.

- Permitting
  - Work with FAA and airspace consultants to complete FAA aeronautical evaluation of Eva Creek site.
  - Begin formulating permitting strategy for Fish & Wildlife approval of Eva Creek Site

- Community Assessment (after FAA permitting)
  - Initiate follow up conversations to test hypothesis of no community concerns at Eva Creek site, and evaluate need for a Community Forum.

Task 2:

- Complete Alaska prototype full pilot design
  - Complete refined design of inflatable shell, including final material selection and structural design
  - Complete generator selection and rotor/turbine design.
  - Complete design of ground station and final winch and tether selection.
  - Update controls and communication system, including remote monitoring and data collection.
  - Implement fault detection and handling capabilities.
  - Work to improve total system reliability.

Task 3:

- Instrumentation plan and shakedown test plan
  - Develop initial test plan for 30kW turbine after design completed.